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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,635	02/04/2004	Evgueni Kolossov	LA-7384-103US	5655

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FULBRIGHT AND JAWORSKI LLP  
555 S. FLOWER STREET, 41ST FLOOR  
LOS ANGELES, CA 90071

EXAMINER

ZHOU, SHUBO

ART UNIT	PAPER NUMBER
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1631

DATE MAILED: 07/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/772,635	<b>Applicant(s)</b> KOLOSSOV ET AL.	
	<b>Examiner</b> Shubo (Joe) Zhou	<b>Art Unit</b> 1631	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 1-8 and 17-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-16 and 20-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/4/04 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Amendments***

Applicant's election, with traverse, of Group II (claims 9-16 and 20-22) in the response filed 6/7/06 is acknowledged. The traversal is on the ground that the distance metric formulas of claims 1 and 17 are related in that the formula of claim 17 is a particular case of that of claim 1. Therefore, the restriction is improper. This is confusing and not persuasive. The argument concerns claims 1 and 17. However, these two claims are not restricted but rather grouped in the same group of invention (I) as set forth in the restriction requirement mailed 5/8/06. Applicant did not distinctly and specifically point out the supposed errors in the restriction requirement between groups I (claims 1-8 and 17-19) and II (claims 9-16 and 20-22).

The requirement is still deemed proper and is therefore made FINAL.

Accordingly, claims 1-22 are currently pending; claims 9-16 and 20-22 are under examination; and claims 1-8 and 17-19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction requirement in the reply filed on 6/7/06.

### ***Drawing***

The drawing is objected to as failing to comply with 37 CFR 1.84(u)(1), which states:

*The different views must be numbered ... . View numbers must be preceded by the abbreviation "FIG." Where only a single view is used in an application to illustrate the claimed invention, it must not be numbered and the abbreviation "FIG" must not appear.*

It is noted that in the instant application, only one sheet and one view of the drawing was filed on 2/4/04. However, the only view is numbered as "Fig 1."

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

The specification is objected to because of the following:

The title of the invention is not descriptive. The elected invention is drawn to a method of analyzing chemical data including a step of cluster analysis. The current title, however, is broadly directed to "Processing of Chemical Analysis Data," which appears generic, non-descriptive, and redundant. A new title is required that is clearly indicative of the invention to which the elected claims are directed.

The abstract of the disclosure is objected to because, firstly, it refers to an equation but certain variables recited in the abstract are not in the equation, e.g.  $\alpha$ ,  $r_x$  and  $r_y$ . Secondly, the phrase "The method includes including a step of ..." in lines 1-2 of the abstract seems grammatically awkward.

The disclosure is also objected to because of the following informalities:

It seems that the half parenthesis “)” after the word “points” on page 3, line 19, should be deleted, and that the word “form” after “for example” on page 4, line 25, should be replaced by the word “from.”

Appropriate correction is required.

***Claim Rejections-35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 9-16 and 20-22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims are drawn to a process, or a computer program product for executing the process. The process comprises performing cluster analysis on 2-dimensional or 3-dimensional data using a distance metric for the distance between two points with a special equation as recited in claim 9.

The following analysis of facts of this particular patent application follows the rationale suggested in the "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (OG Notices: 22 November 2005, available from the US PTO website at <http://www.uspto.gov/web/offices/com/sol/og/2005/week47/og200547.htm>, a copy of which is enclosed herein).

The Guidelines states:

*To satisfy section 101 requirements, the claim must be for a practical application of the § 101 judicial exception, which can be identified in various ways (Guidelines, p. 19):*

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- *The claimed invention "transforms" an article or physical object to a different state or thing.*
- *The claimed invention otherwise produces a useful, concrete and tangible result, based on the factors discussed below.*

In the instant case, the claimed invention merely manipulates the 2-dimensional or 3-dimensional data by performing a cluster analysis using a special distance metric. The process does not transform an article or physical object to a different state or thing outside a computation device.

Furthermore, the invention does not produce a useful, concrete and tangible result. Specifically it does not produce a tangible result. Since the process merely manipulates and converts the 2-dimensional or 3-dimensional data by doing a series of calculations of performing a cluster analysis using a special equation without using or making available for use the results of the manipulation to enable its functionality and usefulness to be realized.

Additionally, claims 20-22 are drawn to "computer program product" for performing the process of claim 9. Absent an explicit definition for the term "computer program product" indicating otherwise in the specification, the term is interpreted as including merely a computer program, i.e. the software, without being on a computer readable medium. A computer program, per se, i.e. the software, without the computer readable medium, is nonstatutory.

### ***Claim Rejections-35 USC § 112***

The following is a quotation of the **second** paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10-12 and 14 are rejected under 35 U.S.C. 112 , second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 10-12 each recite the phrase “the data,” which lacks clear antecedent basis. All three claims depend from claim 9, directly or indirectly, which recites different types of data: “chemical data” and “2-dimensional or 3-dimensional data.” It is not clear what is referred to by “the data” in claims 10-12, the “chemical data” or the “2-dimensional or 3-dimensional data” or both.

Claim 14 recites “data that has not previously been assigned to a cluster.” The term “previously” in the claim is a relative term that renders the claim indefinite. The term is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Without a clear definition and standard and without a clear timeline setting forth the scope encompassed by the word “previously,” it is not clear as to what data is considered as data “that has not been previously assigned to a cluster.” It is unclear whether it means data that has not been assigned to a cluster by the cluster analysis of claim 9, from which claim 14 depends, or data that has not been assigned to a cluster before a user uses the claimed method, or else.

### ***Conclusion***

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shubo (Joe) Zhou, whose telephone number is 571-272-0724. The examiner can normally be reached Monday-Friday from 8 A.M. to 4 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang, can be reached on 571-272-0811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public. For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

Shubo (Joe) Zhou, Ph.D.



Patent Examiner